Remarks

Applicants thank the Examiner for his careful consideration of the application.

Claims 1 – 32 are pending in this application.

Claim Objections

The Examiner objected to claims 7 and 8 as having no antecedent basis provided for the "sub-columns." Applicants have amended claim 1 to overcome this rejection.

Claim Rejections - 35 USC § 102

The Examiner rejected claims 1 – 5, 10 – 14, and 16 under 35 USC § 102(b) as being anticipated by Moore et al. (US Patent No. 5,610,645) ("Moore"). Claim 12 has been canceled. Applicants respectfully traverse the remaining rejections.

In claim 1, Applicants recite a drop emitting device. The device includes a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, the linear array extending along an X-axis, and the columnar arrays being oblique to the X-axis. Each columnar array is comprised of a first sub-column of ink drop generators that is interleaved with a second sub-column of ink drop generators. The first sub-columns of ink drop generators are fluidically coupled to a first ink manifold and the second sub-columns of ink drop generators are fluidically coupled to a second ink manifold.

In claim 11, Applicants recite a drop emitting device. The device includes a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, the linear array of columnar arrays of ink drop generators extending along an X-axis, and the columnar arrays of drop generators being oblique to the X-axis. Each columnar array is comprised of a first sub-column of ink drop generators that is interleaved with a second sub-column of ink drop generators.

The Examiner should withdraw the rejection to claims 1 and 11 as the Examiner has not established that the prior art discloses all the limitations of either claim 1 or claim 11 as amended. Specifically, the Examiner has not established that Moore discloses a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, wherein

each columnar array is comprised of a first sub-column of ink drop generators that is interleaved with a second sub-column of ink drop generators. The Examiner points to elements A of Figure 1. However, Figure 1 appears to show a four-color printhead. Applicants do not see where Figure 1 of Moore shows interleaved columns in a columnar array. Therefore, the Examiner has not shown how Figure 1 of Moore anticipates two interleaved columns and has not established that Moore anticipates claim 1 or claim 11.

The Examiner should allow claims 2 – 5, 10 – 14, and 16 if claim 1 is allowed, as claims 2 – 5 and 10 depend from claim 1 and 13, 14, and 16 depend from claim 11.

The Examiner rejected claims 27 - 30 under 35 USC § 102(b) as being anticipated by Kanda et al. (US Patent No. 6,502,921) ("Kanda"). Claim 28 has been canceled. Applicants respectfully traverse the remaining rejections.

In claim 27, Applicants recite a drop emitting device. The device includes a linear array of side by side substantially mutually parallel first columnar arrays of ink drop generators and a second linear array of side by side substantially mutually parallel second columnar arrays of ink drop generators, the second linear array of columnar arrays being adjacent the first linear array of first columnar arrays along a second axis orthogonal to the X-axis. The linear array of first columnar arrays of ink drop generators extends along a X-axis, and the first columnar arrays are oblique to the X-axis. The second linear array of side by side substantially mutually parallel second columnar arrays of ink drop generators extends along the X-axis, the second columnar arrays being oblique to the X-axis. Each first columnar array is comprised of first and second linear sub-columns of ink drop generators that are interleaved with each other, and each second columnar array is comprised of third and fourth linear sub-columns of ink drop generators that are interleaved with each other.

The Examiner should withdraw the rejection to claim 27 in view of Applicants' amendment to claim 27. Specifically, the Examiner has not established that Kanda discloses first and second columnar arrays wherein each first columnar array is comprised of first and second linear sub-columns of ink drop generators that are interleaved with each other, and each second columnar array is comprised of third and fourth linear sub-columns of ink drop

generators that are interleaved with each other. Therefore, the Examiner has not established that Kanda anticipates claim 27 as amended.

Claims 29 – 32 should be allowed if claim 27 is allowed as claims 29 – 32 depend from claim 27.

The Examiner rejected claims 27, 29, 30, and 32 under 35 USC § 102(e) as being anticipated by Okuda et al. (US Patent No. 6,824,083) ("Okuda"). Applicants respectfully traverse these rejections.

The Examiner should withdraw the rejection to claim 27 in view of Applicants' amendment to claim 27. Specifically, the Examiner has not established that Okuda discloses first and second columnar arrays wherein each first columnar array is comprised of first and second linear sub-columns of ink drop generators that are interleaved with each other, and each second columnar array is comprised of third and fourth linear sub-columns of ink drop generators that are interleaved with each other. Therefore, the Examiner has not established that Okuda anticipates claim 27 as amended.

Claims 29, 30, and 32 should be allowed if claim 27 is allowed as claims 29, 30, and 32 depend from claim 27.

Claim Rejections – 35 USC § 103

The Examiner rejected claim 6 under 35 USC § 103(a) as being unpatentable over Moore in view of Allen et al (US Patent No. 5,469,199) ("Allen"). Applicants respectfully traverse this rejection.

Claim 6 should be allowed if claim 1 is allowed because it depends from claim 1 and includes all the limitations of claim 1. The Examiner has not shown that Allen discloses a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, wherein each columnar array is comprised of a first sub-column of ink drop generators that is interleaved with a second sub-column of ink drop generators. Applicants previously argued that the Examiner had not shown this element with respect to claim 1. Therefore, claim 6 should be allowed.

Claim 6 should also be allowed because the Examiner has not shown a first ink manifold and a second ink manifold receiving ink of the same color. The Examiner cites column 4, lines 33 – 36 of Allen, but Applicants do not see where this passage discloses multiple reservoirs receiving ink of the same color.

The Examiner rejected claims 9 and 15 under 35 USC § 103(a) as being unpatentable over Moore in view of Eriksen (US Patent No. 5,079,571) ("Eriksen"). Applicants respectfully traverse these rejections.

Claim 9 should be allowed if claim 1 is allowed because it depends from claim 1 and includes all the limitations of claim 1. The Examiner has not shown that Eriksen discloses a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, wherein each columnar array is comprised of a first sub-column of ink drop generators that is interleaved with a second sub-column of ink drop generators. Applicants previously argued that the Examiner had not shown this element with respect to claim 1. Therefore, claim 9 should be allowed.

Claim 15 should be allowed if claim 11 as amended is allowed because it depends from claim 11 and includes all the limitations of claim 11. The Examiner has not shown that Eriksen discloses a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, wherein each columnar array is comprised of a first sub-column of ink drop generators that is interleaved with a second sub-column of ink drop generators. Applicants previously argued that the Examiner had not shown this element with respect to amended claim 11. Therefore, claim 15 should be allowed.

The Examiner rejected claim 31 under 35 USC § 103(a) as being unpatentable over Kanda in view of Ericksen. Applicants respectfully traverse this rejection.

Claim 31 should be allowed if claim 27 as amended is allowed because it depends from claim 27 and includes all the limitations of claim 27. The Examiner has not shown that Eriksen discloses first and second columnar arrays wherein each first columnar array is comprised of first and second linear sub-columns of ink drop generators that are interleaved with each other, and each second columnar array is comprised of third and fourth linear sub-columns of ink drop generators that are interleaved with each other. Applicants previously

argued that the Examiner had not shown this element with respect to amended claim 27. Therefore, claim 31 should be allowed.

The Examiner rejected claims 17 – 22, and 26 under 35 USC § 103(a) as being unpatentable over Kanda in view of Murakami et al. (US Patent No. 6,896,357) ("Murakami"). Applicants respectfully traverse these rejections.

In claim 17, Applicants recite a drop emitting device that includes a first linear array of side by side substantially mutually parallel first columnar arrays of ink drop generators and a second linear array of side by side substantially mutually parallel second columnar arrays of ink drop generators. The first linear array of first columnar arrays of ink drop generators extends along a X-axis, and the first columnar arrays are oblique to the X-axis. The second linear array of side by side substantially mutually parallel second columnar arrays of ink drop generators extends along the X-axis, the second columnar arrays is oblique to the X-axis. Each first columnar array of ink drop generators includes a first linear sub-column of ink drop generators that is interleaved with a second linear sub-column of ink drop generators and each second columnar array includes a third linear sub-column of ink drop generators that is interleaved with a fourth linear sub-column of ink drop generators. The second linear array of columnar arrays is adjacent the first linear array of first columnar arrays along a second axis orthogonal to the X-axis. The first linear sub-column of ink drop generators is fluidically coupled to a first ink manifold, the second linear sub-column of ink drop generators is fluidically coupled to a second ink manifold, the third linear sub-column of ink drop generators is fluidically coupled to a third ink manifold, and the fourth linear sub-column of ink drop generators is fluidically coupled to a fourth ink manifold.

The Examiner should withdraw the rejection to claim 17 in view of Applicants' amendment to claim 17. Specifically, the Examiner has not established that either Kanda or Murakami discloses a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, wherein the first linear array of first columnar arrays of ink drop generators extends along a X-axis, and the first columnar arrays being oblique to the X-axis, and wherein each first columnar array of ink drop generators includes a first linear sub-column of ink drop generators that is interleaved with a second linear sub-column of ink drop

generators. The Murakami arguably shows interleaving of different size apertures in the X-direction, but the Examiner has not pointed to a section or image of Murakami (or Kanda) describing interleaving in a direction oblique to the X-axis. Therefore, the Examiner has not established that Claim 17 is unpatentable over the combination of Murakami and Kanda.

Claims 18 – 22 and 26 should be allowed if claim 17 is allowed as claims 18 – 22 depend from claim 17.

The Examiner rejected claim 25 under 35 USC § 103(a) as being unpatentable over Kanda in view of Murakami, as applied to claim 17 above, and further in view of Ericksen. Applicants respectfully traverse this rejection.

Claim 25 should be allowed if claim 17 as amended is allowed because it depends from claim 17 and includes all the limitations of claim 17. The Examiner has not shown that Eriksen discloses a linear array of side by side substantially mutually parallel columnar arrays of ink drop generators, wherein the first linear array of first columnar arrays of ink drop generators extends along a X-axis, and the first columnar arrays being oblique to the X-axis, and wherein each first columnar array of ink drop generators includes a first linear sub-column of ink drop generators that is interleaved with a second linear sub-column of ink drop generators. Applicants previously argued that the Examiner had not shown these limitations were present in Kanda or Murakami. Therefore, claim 25 should be allowed.

Allowable Subject Matter

Claims 7, 8, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims. Applicants have chosen to forego editing these claims for the time being in view of the amendments and arguments made herein.

Conclusion

No additional fee is believed to be required for this amendment. However, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025. This also constitutes a request for any needed extension of time and authorization to charge all fees therefor to Xerox Corporation Deposit Account No. 24-0025.

A telephone interview is respectfully requested at the number listed below prior to any further Office Action, i.e., if the Examiner has any remaining questions or issues to address after this paper. The undersigned will be happy to discuss any further Examiner-proposed amendments as may be appropriate.

Respectfully submitted,

Joseph M. Young
Attorney for Applicants
Registration No. 45,248
Telephone (503) 685-4229

JMY/rjc